

REMARKS

Reconsideration of this application and the allowance of rejected claims 1, 2, 6-7 and 32 are respectfully requested. Applicants have attempted to address all grounds for rejection in the Office Action dated February 9, 2011 (Paper No. 20110128) and believe that the application is now in condition for allowance. In the alternative, the claims are submitted to be in better form for appeal. The claims have been amended to more clearly describe the present invention.

Claims 1 and 32 are rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of U.S. Patent No. 6,066,598 to Ishikawa et al., U.S. Publication No. 2003/0144150 to Arendt, U.S. Patent No. 6,239,674 to Enokihara and U.S. Patent No. 5,834,405 to Ahn. Applicants disagree with and traverse this rejection for the following reasons.

Ishikawa discloses a superconducting multilayer electrode including alternating superconductor layers and dielectric layers laminated with each other on one side of a dielectric substrate. The superconductor layer is formed on the substrate and then dielectric layers and superconductor layers are alternately laminated thereon. Arendt is cited as teaching the step of depositing one or more buffer layers (i.e., insulating layers) onto a substrate. Enokihara is cited as teaching input/output terminals having transmission lines coupled to a conductor where the conductor can be a superconductor. Ahn discloses a superconducting multilayer ceramic substrate that is prepared by connecting at least one metallic conductor embedded in a ceramic dielectric oxide before establishing a

superconducting oxide reaction layer at intervals between the ceramic material and at least one metallic conductor.

In contrast, amended claim 1 recites, among other things, a method for producing a superconducting highly inductive component having at least two terminals, the method including the steps of “depositing a stack of alternately superconducting and insulating films comprising at least one of a conductive line segment and a superconductive line segment incorporating at least one terminal of the component on a substrate” where “said line segment [includes] . . . one of a conducting layer and a superconducting layer” and “said stack [includes] . . . a plurality of insulating layers and a plurality of superconductive material.”

Ishikawa discloses “a superconducting multilayer electrode . . . which is laminated with at least one TEM mode transmission line” (see the Abstract) as an electrode within a high frequency resonator (i.e. around 1 MHz frequencies). While Ishikawa discloses a stack of alternately superconducting and insulating films, Ishikawa fails to disclose that the stack includes “at least one of a conductive and a superconductive line segment incorporating at least one terminal of the component.” (Emphasis Added). Furthermore, as known by persons of ordinary skill in the art, incorporating the claimed terminal would prevent the resulting component in Ishikawa from working as a TEM line.

Moreover, Ishikawa fails to disclose a method for producing a “highly inductive component” because terminals are not incorporated in the stack of Ishikawa. As a

result, the component in Ishikawa only has normal inductivity (not high inductivity) as for any single conductor.

Arendt discloses a “composite substrate structure including a substrate, a layer of a crystalline metal oxide or crystalline metal oxynitride material upon the substrate” (see the Abstract). Similar to Ishikawa, Arendt fails to disclose or suggest superconductive insulating stack including at least one of a conductive line segment and a superconductive line segment incorporating “at least one terminal” as recited in amended claim 1. Arendt also fails to disclose or suggest that its substrate is a “highly inductive component” or disclose a stack including a “plurality of insulating layers and a plurality of superconductive material.”

Enokihara discloses an elliptical resonator that includes “a high-frequency circuit element” where the “input/output terminals are bonded to the resonator at the input/output bonding points” (see the Abstract). Note that “bonding points” does not imply a conductive connexion.

As stated in the Office Action, Enokihara discloses that “it is preferable that the input/output terminals comprise transmission lines. One end of a transmission line is coupled with the conductor comprising the resonator by capacitance or inductance” (Emphasis Added)(Col. 3, lines 49-53). A person of ordinary skill in the art knows that coupling a

terminal by capacitance or inductance makes it necessary that no conductive connexion exists with the terminal. Thus, Enokihara fails to teach a connexion of terminals obtained through one of “a conductive line segment and a superconductive line segment incorporating at least

one terminal.” Accordingly, Enokihara does not remedy the deficiencies of Ishikawa.

Ahn discloses a superconducting ceramic substrate including a layer embedded into a multi layer ceramic oxide and then co-fired into a metal with a superconducting reaction layer. Ahn fails to disclose a stack “a plurality of insulating layers and a plurality of superconductive material.” Accordingly, Ahn fails to remedy the deficiencies of Ishikawa, Arendt and Enokihara discussed above.

Additionally, amended claim 32 recites, among other things, that the “superconducting inductive component exhibits a high inductance occurring at frequencies of 700-2000 Hz.” As stated above, none of the cited references discloses a superconducting inductive component that generates or exhibits a high inductance at low frequencies such as the frequencies recited in amended claim 32. Thus, the cited references, whether taken alone or combined, fail to disclose or suggest the subject matter of amended claim 32.

Accordingly, Applicants submit that amended claim 1, and the claims that depend therefrom, are each patentably distinguished over the cited combination and in condition for allowance.

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Ishikawa, Arendt, Enokihara, Ahn and “IEEE Transactions on Magnetics,” 27:1365-1368 (1991) to Lee et al. Applicants disagree with and traverse this rejection for the following reasons.

Claim 2 depends from amended claim 1. As stated above, the combination of Ishikawa, Arendt, Enokihara, and Ahn fails to disclose or suggest the subject matter of amended claim 1. Lee fails to remedy the deficiencies of Ishikawa, Arendt, Enokihara and Ahn. Therefore, Applicants submit that claim 2 is patentably distinguished over the combination of Ishikawa, Arendt, Enokihara, Ahn and Lee for at least the reasons provided above and for the further reasons that the cited combination fails to disclose or suggest the subject matter of claim 2 in combination with the subject matter of amended claim 1.

Claims 6 and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Ishikawa, Arendt, Enokihara, Ahn and U.S. Patent No. 5,219,827 to Higaki. Applicants disagree with and traverse this rejection for the following reasons.

Claim 6 depends from amended claim 1. Claim 7, as amended, also depends from amended claim 1. As stated above, the combination of Ishikawa, Arendt, Enokihara and Ahn fails to disclose or suggest the subject matter of amended claim 1. Higaki fails to remedy the deficiencies of Ishikawa, Arendt, Enokihara and Ahn. Therefore, Applicants submit that claims 6 and 7 are each patentably distinguished over the cited combination for the reasons provided above and for the further reason that the cited combination fails to

disclose or suggest the subject matter of claims 6 and 7 in combination with the subject matter of amended claim 1.

In view of the above remarks, the application is respectfully submitted to be in allowable form. Allowance of the rejected claims is respectfully requested. Alternatively, the claims are submitted to be in better form for appeal. Should the Examiner discover there are remaining issues which may be resolved by a telephone interview, he is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By /Christopher S. Hermanson/
Christopher S. Hermanson
Registration No. 48,244

August 8, 2011
300 South Wacker Drive
Suite 2500
Chicago, Illinois 60606
Telephone: 312.360.0080
Facsimile: 312.360.9315
Customer No. 24978